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10/581,396	03/16/2007	Jin-hee Jo	Q95303	3867
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SUITE 800				
WASHINGTON, DC 20037				
EXAMINER				
PHAM, TIMOTHY X				
ART UNIT		PAPER NUMBER		
2617				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/581,396

Applicant(s)

JO ET AL.

Examiner

TIMOTHY PHAM

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-5 and 7 are objected to because of the following informalities: the term “MIMO-WLAN” is an acronym which can mean different things and/or change in meaning over time; hence, it would be desirable to write out the actual words to which the acronym refers.

Claim 3 is objected to because of the following informalities: the term “trasmission method” should be replaced with – transmission method--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al. (hereinafter “Lu”; US 2005/0138194).

Regarding claim 1, Lu discloses a method for constructing plural signals in the MIMO-WLAN system (paragraph [0026], e.g., MIMO (Multiple Input Multiple Output)) which transmits a data packet as the plural signals through multiple antennas (Abstract; paragraph [0012], e.g., one or more antennas), comprising:

constructing a data packet (Figs. 2 or 3) to include a preamble for data packet transmission (Fig. 2, reference 202; paragraph [0031], e.g., data frame 300 may also comprise a preamble 202), a SIGNAL (Fig. 3, references 312 and 324; paragraphs [0024], [0027], e.g.,

symbol 312 denoted as “SIGNAL1”), an additional information section for data packet transmission of the MIMO-WLAN system (Fig. 2, reference 204; paragraph [0021], e.g., the header field 204 may provide modulation information, convolution coding rate information, and data length information) and a service data unit (Fig. 3, reference 306; paragraph [0023], e.g., PSDU (PLCP Service Data Unit) data);

distributing data of the preamble (paragraph [0031]) and the SIGNAL (paragraphs [0024], [0027]) in at least one of the plural signals (paragraph [0019]);

distributing data of the additional information section in at least one of the plural signals (paragraph [0021]); and

distributing data of the service data unit in at least one of the plural signals (paragraphs [0023], [0029], e.g., the SERV field may comprise 16 bits used to synchronize a descrambler in a receiver).

Regarding claim 2, Lu discloses the method as claimed in claim 1 above, wherein the data of the additional information section includes information on the number of the plural signals of the MIMO-WLAN system (paragraph [0021], e.g., the header field 204 may provide modulation information, convolution coding rate information, and data length information; therefore, it includes information on the number of the signals).

Regarding claim 3, Lu discloses the method as claimed in claim 1 above, wherein the data of the additional information section includes a transmission method of the MIMO-WLAN system (paragraphs [0021], [0024]-[0027], e.g., convolution coding rate, therefore, it is a transmission method).

Regarding claim 4, Lu discloses the method as claimed in claim 1 above, wherein the data of the additional information section includes a data transmission rate of the MIMO-WLAN system (paragraph [0040], e.g., the actual data transmission rate).

Regarding claim 6, Lu discloses the method as claimed in claim 1 above, wherein the step of constructing the data packet places the additional information section prior to the service data unit (Fig. 3, notes that the header field 304 is placed prior to the service data 306).

Regarding claim 7, Lu discloses the method as claimed in claim 1 above, wherein the data of the SIGNAL includes LENGTH_N data (paragraphs [0021], [0034], [0043]) to calculate time information for the data packet transmission according to the transmission rate of the MIMO-WLAN system (paragraphs [0034], e.g., a header 204 of the data packet 200 (e.g., data rate, data length) to calculate the duration of the data transmission).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu, as applied to claim 1, in view of Jones, IV et al. (hereinafter "Jones"; US Patent No. 7,453,793).

Regarding claim 5, Lu discloses the method as claimed in claim 1 above, fails to specifically disclose wherein the data of the additional information section includes a training signal for channel estimation of the MIMO-WLAN system.

However, Jones a training signals for channel estimation of the MIMO-WLAN system (Abstract; col. 3, lines 49-50; col. 20, line 45).

Therefore, taking the teachings of Lu in combination of Jones as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have the data of the additional information section includes a training signal for channel estimation for advantages of reducing the impact of offset error to a negligible level on the receiver process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY PHAM whose telephone number is (571)270-7115. The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Timothy Pham/
Examiner, Art Unit 2617

/AJIT PATEL/
Primary Examiner, Art Unit 2617